

In the spring of 1966, a national conference on smoking behavior was held in Tucson at the University of Arizona. The conference was concerned with recent research data, problems in smoking research, and the roles of the scientist, the educator, and government in working toward a reduction of cigarette smoking. Highlights of the meeting are presented in this summary report.

STUDIES AND ISSUES IN SMOKING BEHAVIOR

RESEARCH: SUMMARY OF A CONFERENCE

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THIS is a summary report of some of the highlights of the 1966 National Research Conference on Smoking Behavior which was held at the University of Arizona in Tucson. This three-day conference was attended by about fifty social scientists, physicians, educators, public health people, and others who are involved in some way with smoking behavior research.

The purposes of the conference were to share recently acquired research data; to discuss problems of theory and method in smoking research; and to evaluate the roles of the scientist, the educator, and government in working toward what appears to be (from a health standpoint) a highly desirable goal: apprising the public of the hazards of cigarette smoking, with a view to reducing its seriousness as a national health problem.

To prevent the conference from developing into a mere recitation of long papers, and to stimulate discussion, research contributions by the participants were gathered ahead of time for duplication and distribution to the others attending the conference. These bound

collections of materials made up Volumes I, II, and III, "Research Reports," which have been made generally available. Since the papers in these volumes were reviewed previously, each investigator needed to give only a short summary of his work and to lead the discussion of it later. These discussions were aimed chiefly at evaluating the theoretical and practical implications of the research under discussion. A number of social scientists were invited because of their concern for the humanistic and ethical aspects of scientific research rather than for their accomplishments in the study of smoking behavior itself. Among these were Nevitt Sanford, Frank Barron, Percy Tannenbaum, Leonard Berkowitz, and others. In view of the growing concern by some observers that the attempt on the part of social scientists to control smoking behavior may lead to an abridgment of the individual's freedom of choice of behavior, it was believed that this subject should receive some consideration. Therefore, the conference dealt not only with a description of research projects being conducted around the nation, but

also with the implications of this research and its future prospects.

I shall summarize rather briefly, then, the highlights under the following main headings: (1) an overview of representative research projects being carried out around the nation on the behavioral aspects of smoking, and (2) some implications of this research from theoretical, practical, and ethical points of view.

The research projects were classified for convenience under the following main headings: (1) Communications; (2) Intervention Processes; (3) Cessation Processes; (4) Personal Characteristics of Smokers.

1. Communications

The first of these included a number of projects investigating the various aspects of a communication which may influence its effectiveness, such as the characteristics of the communicator, the kind of medium used, the form of the message, and the nature of the target audience. These variables interact in such a complex way that prediction, or even analysis, for a given situation is extremely difficult. However, a number of projects are studying the ways in which public health messages, especially in the schools, can be made more effective by a better understanding of communications which may have as their goal either direct changes of behavior, or changes in attitude which may lead to changes in behavior.

Borgatta and Evans¹ at Wisconsin are estimating the effectiveness of a large-scale antismoking mail campaign to thousands of freshmen students. This mail campaign followed a fairly intensive study of entering freshmen groups by means of questionnaires. Borgatta and Evans hope to relate cigarette smoking in their group to a large number of personality and social-psychological variables; also to relate these variables to the degree of effectiveness of their antismoking campaign.

Howard Leventhal¹⁴ at Yale is studying the conditions that affect a person's acceptance of health information; acceptance in this case meaning not only that the person has been able to repeat what he has been told, but also shows that the information has changed his attitudes and behavior. The particular variable he manipulated was that of fear. Do fear-laden messages have a stronger impact for behavioral change than messages which do not arouse that emotion? Past studies have led to contradictory results, principally because of differences in other variables, such as audience characteristics. These earlier studies indicated, for example, differential effectiveness of fear-laden messages according to social class identification of the subjects. Leventhal found it very difficult to maintain whatever changes in attitude he produced with fear communications. He believes that there is a need to investigate the relationship of emotion-provoking communications to various factors known to maintain actions, such as public commitment and conformity to group norms.

In conceptualizing a model for smoking behavior change, Horn and Waingrow⁹ of the National Clearinghouse for Smoking and Health provide four dimensions: (1) the motivation for change, (2) the perception of the threat, (3) the development and use of alternative psychological mechanisms, and (4) factors facilitating or inhibiting continuing reinforcement. They also provide data on the second and fourth of these dimensions, based on a national survey which was conducted in the fall of 1964. What are the necessary conditions before an individual will attempt to change his smoking behavior? He must become aware of the threat and accept its importance; he must accept its relevance and its susceptibility to intervention. Horn and Waingrow tailored their interview questions in such a manner as to secure measurement and patterning of

these factors. They note that in order for smoking behavior change to persist, there must be a favorable balancing of facilitators over inhibitors in the individual's life. Facilitators in the form of social forces, interpersonal influences, mass media, and the like, must be present to encourage the individual to change his smoking habits and to provide periodic or continuing reinforcement. By studying a number of such facilitators or inhibitors present in the person's life situation and their strength, predictability of the likelihood of behavioral change and its permanence will be increased.

2. Intervention Processes

The second category — Intervention Processes—included a number of research projects attempting to investigate processes which may intervene between the individual and his tendency to adopt smoking behavior. Many antismoking campaigns in the schools assume that an important intervener between the individual and his likelihood to begin smoking is his knowledge of its consequences to his health. Testing this assumption, Dr. Kenneth L. Briney² of the American Heart Association described a study in which he compared knowledge of consequences to health with cigarette smoking among a number of high school seniors. His results indicated that knowledge is a more effective intervener with girls than with boys; that is, for girls there was a slightly stronger relationship between knowledge of health consequences and the tendency not to smoke than there was for boys. This is an interesting finding, particularly in view of the fact that the initiation of smoking by boys is frequently occasioned by a spirit of bravado which is not expected to appear among females.

Dr. Marilyn Crawford⁵ at Madison College has studied the relative effectiveness of various teaching methods on

changes in smoking behavior, attitudes, and knowledge. Her teaching methods differed with respect to the amount of personal commitment demonstrated by the teacher. She found there to be a tendency for the "committed" approach by the teacher to be more effective in shaping attitudes and behavior than the "neutral" approach. She also found that even the least effective approach was better than no approach at all.

Dr. Dorothy Dunn⁶ at Illinois compared a number of social and psychological characteristics of smokers with those of nonsmokers. She found that while there was much overlap, smokers were better represented among those who were urban dwellers as compared to rural, better represented among those with more spending money, among those who participated less in organized school activities, and significantly better represented among average and poor students as compared to superior students. She further found that if a student's roommate was a smoker he would be far more likely to increase his own cigarette consumption during the period of a year than he would if his roommate was not a smoker.

The Allen and Fackler study⁷ in Philadelphia is an excellent example of how formidable the task of intervention is. These researchers, heading the staff of the Philadelphia Smoking and Health Research Project, gave questionnaires to 30,000 parents of children attending schools in Philadelphia. Asked, among other things, if they wished to participate in smokers' clinics, some 4,800 currently smoking parents indicated a willingness, but of these, only 257 attended a meeting to organize, only 150 actually attended clinics, and still fewer—only 56 persons—successfully quit smoking for at least six months. It would be interesting to determine how many of these 56 would have quit anyway during this period, without clinical intervention.

What are the compelling personal reasons that lead to success in quitting smoking? Despite all the health messages and campaigns, surprisingly few people are actually giving up smoking. Bruce Straits,²² while at the University of Chicago, compiled extensive data comparing successful quitters with those who were unsuccessful. Straits and his colleagues interviewed several hundred males comprising four groups:

- (a) smokers who had not tried to quit;
- (b) smokers who tried but failed;
- (c) smokers who tried and succeeded, and
- (d) nonsmokers.

In addition, brief interviews were conducted with the respondent's friends, co-worker, wife, physician, or other close associates. He found that an attempt to stop smoking was associated with the presence of physical ailments (especially those easily connected with smoking), heavier tobacco consumption, less supportive interpersonal environments (particularly if the wife was a nonsmoker or an exsmoker), a relatively unfavorable attitude toward smoking, and a nonfatalistic outlook on life. Successful quitters tended to be older and to have the above-mentioned characteristics (with the exception of fatalism) to a greater extent than those unable to stop.

Daniel Rosenblatt¹⁹ and his associates at the New York City Health Department have been working on a project designed to demonstrate whether it is feasible to use group interaction techniques as a means of changing smoking habits. They are also comparing traditional techniques, such as films, literature, and lectures, with the technic of group interaction among college students. This study follows the so-called "dimensions of a model for smoking behavior change" by Horn and Waingrow, which I have already mentioned. To my knowledge, Rosenblatt's work represents one of the first attempts formally to implement the Horn-Waingrow model in an

action program of intervention. Obtaining a smoking history for several hundred Queens College students, he solicited volunteers among them to participate in group discussion sessions as a means of changing their smoking habits. He also selected samples for a fairly intensive analysis along the lines of the Horn-Waingrow model. These samples comprised current smokers, ex-smokers and nonsmokers. He obtained data relevant to the following categories in the Horn model: influences of primary groups; sex roles; governmental and legal supports; the decisions and processes involved in beginning, continuing, and discontinuing smoking. He also analyzed data on the roles of exemplars, and how esthetics and the need to master one's self are involved in change.

3. Cessation Processes

The next series of research reports dealt with the general problem of what happens as a smoker is engaged in shaking off the habit—or, to use a more technical rubric, "Dynamics of the Cessation Process."

Most of the reports under this heading were from people who were involved in some way in withdrawal clinics. Kenneth Reed¹⁸ described a well-planned project aimed at smoking control with an inpatient general hospital population at Methodist Hospital of Indiana, and Dr. Charles Ross²⁰ reported on the smoking withdrawal clinics at Roswell Park Memorial Institute since September, 1963.

Jerome Schwartz and Mildred Dubitzky,²¹ of the Institute of Social and Personal Relations at Berkeley, reported on the methodology of the Smoking Control Research Project, an attempt to compare three methods designed to help people to stop smoking. Using a population of over 8,000 males and controlling for socioeconomic differences,

Schwartz and his group tested these three methods: Prescription, Individual Counseling (with medication) and Group Counseling (with and without medication). These three methods varied along the dimension of professional support, but they were all designed to allay the anxiety that usually results from the attempt to give up cigarettes. They used a double-blind design to distribute tranquilizers and placebos to their subjects. Special forms were administered to assess the subjects' progress, the nature of the change process, and the social-psychological factors which influence the ability to give up smoking and resist recidivism.

Male-female differences in success of quitting were explored at the American Institutes of Research under the direction of Dr. Joan S. Guilford.⁸ Noting that the success ratio of women doubled when they participated in a group treatment program, she arranged to analyze her data further by sex. Four criterion groups—male and female successes and failures—were set up, and all subjects were interviewed on a wide variety of personal-situational and psychological variables. The resulting comparisons indicated that what differentiates successes from failures is by no means the same for both sexes. Guilford believes that more intensive comparative studies need to be made, and that future treatment programs consider the possibility of differential approaches to male and female smokers based upon the results of these studies.

How much influence can a physician exert on the smoking behavior of his patients? In a study by Bernard and Judith Mausner,^{15,16} it was found that the effect of physicians urging their patients to stop smoking, coupled with medical assistance in the form of lobeline, influenced a significantly greater number of the experimental group to reduce their smoking, compared to a control group. The difference between the

groups became greater with the passage of time. Those who were successful in changing their smoking habits were found to be heavier smokers, better represented among males, and among those whose smoking showed some emotional involvement.

4. Personal Characteristics of Smokers

The final work session dealt with research investigating the personal characteristics of the smoker—that is, research exploring the possibility of systematic differences in personality or other psychosocial variables between smokers and nonsmokers.

Richard Coan,⁴ of the University of Arizona, offered suggestions on strategy of research in investigating personality correlates of smokers. Coan pointed to the futility of the attempt to understand the so-called personality of the smoker without a prior basic understanding of the over-all structure of personality. A strong advocate of multivariate methods in psychological research, he maintains that structural models, if not indispensable, must be viewed at least as useful aids in the understanding of personality, and that factor and hierarchical models have much to offer at the present stage of research. He said that personality integration and the experience of control are examples of areas in which multivariate research may extend our understanding and effective prediction of behavior.

A promising program of research exploring basic attitudes that young people have toward smokers as compared to nonsmokers is being carried out by members of the California Department of Health. John Weir,²³ using a clever modification of the Thematic Apperception technic in order to avoid stereotyped, socially acceptable responses, drew some interesting inferences concerning the expressive value that cigarette smoking has for students. The

long-range purpose of this kind of inquiry is to determine the kinds of needs that cigarette smoking serves in the social life of the adolescent. This problem is also being studied at the Center for Research on Smoking and Health at the University of Arizona with the use of the semantic differential and other self-reporting devices. The research group at Arizona has also been investigating cultural differences in values, attitudes, and behavior as related to smoking among various ethnic groups in southern Arizona.^{3,10-13,24,25}

This rather sketchy account of smoking behavior research reported at the conference is by no means a complete account of conference activities. One panel discussion addressed itself to the problem of defining the role of smoking research in the social sciences, and another considered the ethical implications of this kind of research in the rather controversial matter of the control of human behavior. Certainly no issues were resolved, although many were aired. The question of how proper it is for the social scientist to exercise his skills and experience in manipulating behavior away from smoking constituted a major theme of debate not only for this conference but for its predecessor at Beaver College in 1965. It would be impossible to summarize briefly the broad range of viewpoints held by the discussants. At one end of this spectrum of opinion was a clear distaste for control, represented best by the prominent psychologist who declared that he would rather lead a short, autonomous life than a long, healthy supine one in the hands of a group of behavioral scientists. An opposing view was that the social scientists indeed cannot seriously abridge the freedom of the individual to make a decision on the matter of smoking, because this freedom has already been restricted by the pressures of advertising, social conformity, and suggestion. Of course, it should be

noted that the problem of the ethics of behavior control is not limited to the smoking withdrawal clinic. Psychological practice and research in general, and more particularly the areas of learning, as represented by operant procedures, and clinical psychology with the controls inherent there, are involved in the same kinds of soul searching.

The panel discussion of the role of smoking research in the social sciences was moderated by Nevitt Sanford. Among the questions raised was the matter of the timeliness of this kind of study in the historical perspective of psychology. It seemed to be generally agreed that theory and method in psychology have advanced sufficiently to deal with the kinds of human problem areas represented by smoking behavior. It was felt also that a broader interdisciplinary approach to the problem should be made. For example, concepts in sociology, anthropology, and related sciences should be brought to bear more vigorously. From my own point of view the most promising results of the conference in terms of future prospects centered about the appearance of better organized research and more carefully designed experiments. We are progressing from isolated and uncoordinated gropings for questionnaire data to more thoughtfully planned research programs. A better understanding of total personality structure and improvements in measurement procedures, such as the suggestion to make greater use of multivariate technics, seem to be steps in this direction. Further, no broad research program can be sustained indefinitely without a basic theoretical model to guide it. One of the tests of such a model is the extent to which it generates research. It is encouraging to see studies such as that by Rosenblatt follow the lines suggested by the Horn-Waingrow model. The model not only accommodates to, but is strengthened by, national survey data on the empirical

side, and supporting statements from personality theory, such as those contributed by Tomkins, on the theoretical side. As the model is modified and expanded we expect it to suggest new hypotheses, the testing of which will lead to further organized study, and I hope eventually to the development of effective action programs.

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